

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA**

IN RE: AQUEOUS FILM-FORMING FOAMS PRODUCTS
LIABILITY LITIGATION

MDL No.
2:18-mn-2873-RMG

CHELMSFORD WATER DISTRICT,

Plaintiff,

-vs -

THE 3M COMPANY, f/k/a Minnesota Mining and
Manufacturing Co., AGC CHEMICALS AMERICAS INC.,
AMEREX CORPORATION, ARKEMA INC.,
ARCHROMA U.S. INC., BASF CORPORATION,
individually and as successor in interest to Ciba Inc.,
BUCKEYE FIRE EQUIPMENT COMPANY, CARRIER
GLOBAL CORPORATION, CHEMDESIGN PRODUCTS
INC., CHEMGUARD INC. CHEMICALS, INC.,
CLARIANT CORPORATION, individually and as successor
in interest to Sandoz Chemical Corporation, CORTEVA,
INC., individually and as successor in interest to DuPont
Chemical Solutions Enterprise, DEEPWATER
CHEMICALS, INC., DUPONT DE NEMOURS INC.,
individually and as successor in interest to DuPont Chemical
Solutions Enterprise, DYNAX CORPORATION, E. I.
DUPONT DE NEMOURS AND COMPANY, individually
and as successor in interest to DuPont Chemical Solutions
Enterprise, KIDDE-FENWAL, INC., individually and as
successor in interest to Kidde Fire Fighting, Inc., NATION
FORD CHEMICAL COMPANY, NATIONAL FOAM,
INC., THE CHEMOURS COMPANY, individually and as
successor in interest to DuPont Chemical Solutions
Enterprise, THE CHEMOURS COMPANY FC, LLC,
individually and as successor in interest to DuPont Chemical
Solutions Enterprise, TYCO FIRE PRODUCTS, LP,
individually and as successor in interest to The Ansul
Company, and JOHN DOE DEFENDANTS 1-20,

Defendants.

COMPLAINT

Case No: 2:22-cv-03165

Jury Trial Demanded

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff CHELMSFORD WATER DISTRICT (“Plaintiff”), by and through its undersigned counsel, hereby files this Complaint against Defendants, 3M COMPANY, f/k/a Minnesota Mining and Manufacturing Co., AGC CHEMICALS AMERICAS INC., AMEREX CORPORATION, ARKEMA INC., ARCHROMA U.S. INC., BASF CORPORATION, BUCKEYE FIRE EQUIPMENT COMPANY, CARRIER GLOBAL CORPORATION, CHEMDESIGN PRODUCTS INC., CHEMGUARD INC., CHEMICALS, INC., CLARIANT CORPORATION, CORTEVA, INC., DEEPWATER CHEMICALS, INC., DUPONT DE NEMOURS INC., DYNAX CORPORATION, E. I. DUPONT DE NEMOURS AND COMPANY, KIDDE-FENWAL, INC., NATION FORD CHEMICAL COMPANY, NATIONAL FOAM, INC., THE CHEMOURS COMPANY, THE CHEMOURS COMPANY FC, LLC, and TYCO FIRE PRODUCTS, LP, and DOE DEFENDANTS 1-20, fictitious names whose present identifies are unknown (collectively “Defendants”) and alleges, upon information and belief, as follows:

INTRODUCTION

1. This action arises from the foreseeable contamination of groundwater by the use of aqueous film-forming foam (“AFFF”) products that contained per- and poly-fluoroalkyl substances (“PFAS”), including perfluorooctane sulfonate (“PFOS”) and perfluorooctanoic acid (“PFOA”).

2. PFOS and PFOA are fluorosurfactants that repel oil, grease, and water. PFOS, PFOA, and/or their chemical precursors, are or were components of AFFF products, which are firefighting suppressant agents used in training and firefighting activities for fighting Class B fires. Class B fires include fires involving hydrocarbon fuels such as petroleum or other flammable liquids.

3. PFOS and PFOA are mobile, persist indefinitely in the environment, bioaccumulate in individual organisms and humans, and biomagnify up the food chain. PFOS and PFOA are also associated with multiple and significant adverse health effects in humans, including but not limited to kidney cancer, testicular cancer, high cholesterol, thyroid disease, ulcerative colitis, and pregnancy-induced hypertension.

4. At various times from the 1960s through today, Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the fluorosurfactants and/or perfluorinated chemicals (“PFCs”) contained in AFFF (collectively, “AFFF/Component Products”).

5. Defendants designed, manufactured, marketed, distributed, and/or sold AFFF/Component Products with the knowledge that these toxic compounds would be released into the environment during fire protection, training, and response activities, even when used as directed and intended by Defendants.

6. Since its creation in the 1960s, AFFF designed, manufactured, marketed, distributed, and/or sold by Defendants, and/or that contained fluorosurfactants and/or PFCs designed, manufactured, marketed, distributed, and/or sold by Defendants, used as directed and intended by Defendants, and subsequently released into the environment during fire protection, training, and response activities, resulting in widespread PFAS contamination.

7. On October 2, 2020, the Massachusetts Department of Environmental Protection (“MassDEP”) promulgated a new drinking water regulation and maximum contaminant level (MCL) of 20 part per trillions (ppt) for the sum of six per-and poly-fluoroalkyl substances

(PFAS6). Those compounds are PFOA, PFOS, PFNA, P3FHxS, PFHpA and PFDA (in conjunction “PFAS6”).

8. On August 2020, Chelmsford Water District (“CWD”), in collaboration with the MassDEP began to sample their water supply wells for PFAS6 Results showed that PFAS6 were present at their three water treatment plants (“WTP”): Crooked Spring WTP, Riverneck WTP, and Smith Street WTP.

9. To the present, Plaintiff continues to test their water wells supply for PFAS6. In 2020, high levels of PFAS6 were found in this sampling event, results levels of PFAS6 in Plaintiff’s wells ranged from 7.6 ppt to 24.1 ppt; in 2021 tests results ranged from 7.9 ppt to 25 ppt. Some of the test results levels are in clear violation of MassDEP MCL of 20 ppt for PFAS6.

10. On information and belief, Defendants’ AFFF/Component Products were stored, used, and discharged at Chelmsford Fire Department (“CFD”) and its fire stations for years as part of fire training operations and firefighting training exercises.

11. CDF and its fire stations used AFFF/Component Products during fire protection, training, and response activities unaware of the toxic hazards of AFFF to the human health and the environment.

12. On information and belief, the presence of PFAS6 at the CWD’s water supply is due to the use of AFFF foams at CFD, its fire stations and surrounding communities fire departments, that migrated into the ground and groundwater of Plaintiff’s water supply wells.

13. As the investigation continues, it is anticipated that further contamination from storage, handling, use, training with, testing equipment with, other discharge, and disposal of Defendants’ AFFF products may be uncovered. Accordingly, the affected area may expand.

14. Plaintiff CWD, brings this action to recover damages it either has incurred or will incur in investigating, monitoring, remediating, and otherwise responding to the PFAS contamination to stem the threat to public health and the environment caused by Defendants' AFFF/Component Products.

JURISDICTION AND VENUE

15. Pursuant to this Court's Case Management Order No. 3, this Complaint is filed as an original action in the United States District Court for the District of South Carolina.

16. This Court has subject matter jurisdiction over the Defendants pursuant to 28 U.S.C. §1332(a), in that this action seeks monetary relief in excess of the sum or value of \$ 75,000, exclusive of interest, and there is complete diversity between the parties.

17. This Court has subject matter jurisdiction over Plaintiff since they have their principal place of business at 20 Watershed Lane, Chelmsford Massachusetts.

18. Pursuant to 28 U.S.C. § 1391, Plaintiff's Home Venue is the United States District Court for the District of Massachusetts.

19. This Court has personal jurisdiction over Defendants by virtue of each Defendants' regular and systematic contacts with Massachusetts, including, among other things, purposefully marketing, selling and/or distributing their AFFF/Component Products to and within Massachusetts, and because they have the requisite minimum contacts with Massachusetts necessary to constitutionally permit the Court to exercise jurisdiction over them consistent with traditional notions of fair play and substantial justice.

PARTIES

A. Plaintiff

20. Plaintiff, the Chelmsford Water District is a water utility district of the Town of Chelmsford, with its principal place of business at 20 Watershed Lane, Chelmsford Massachusetts, 01824.

21. Plaintiff brings this action representative of itself and in all respects for the benefit of its customers and for the protection of their health, welfare and prosperity as a result of the widespread PFAS contamination described above.

22. Plaintiff is operating a public water system and has a duty to exercise due care and diligence in the maintenance and supervision of all sources of the public water systems to prevent its pollution and depletion.

23. Plaintiff is operating a public water system and as a supplier of water has a duty to take the necessary steps to ensure the protection of the public health, including undertaking of remedial feasibility studies and the installation of a suitable treatment process.

B. Defendants

24. The term “Defendants” refers to all Defendants named herein jointly and severally.

i. The AFFF Defendants

25. The term “**AFFF Defendants**” refers collectively to Defendants 3M Company, Angus International Safety Group, Ltd., Amerex Corporation, Buckeye Fire Equipment Company, Carrier Global Corporation, Central Sprinkler, LLC, Chemguard Inc., Fire Products GP Holding, LLC, Johnson Controls International PLC, Kidde-Fenwal, Inc., National Foam, Inc., and Tyco Fire Products L.P.,

26. **Defendant The 3M Company f/k/a Minnesota Mining and Manufacturing Co. (“3M”)** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 3M Center, St. Paul, Minnesota 55144-1000.

27. Beginning before 1970 and until at least 2002, 3M designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

28. **Defendant Amerex Corporation (“Amerex”)** is a corporation organized and existing under the laws of the State of Alabama, with its principal place of business located at 7595 Gadsden Highway, Trussville, AL 35173.

29. Amerex is a manufacturer of firefighting products. Beginning in 1971, it was a manufacturer of hand portable and wheeled extinguishers for commercial and industrial applications.

30. In 2011, Amerex acquired Solberg Scandinavian AS, one of the largest manufacturers of AFFF products in Europe.

31. On information and belief, beginning in 2011, Amerex designed, manufactured, marketed distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

32. **Defendant Tyco Fire Products LP (“Tyco”)** is a limited partnership organized under the laws of the State of Delaware, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143-2542.

33. Tyco is the successor in interest of The Ansul Company (“Ansul”), having acquired Ansul in 1990.

34. Beginning in or around 1975, Ansul designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

35. After Tyco acquired Ansul in 1990, Tyco/Ansul continued to design, manufacture, market, distribute, and sell AFFF products containing PFAS, including but not limited to PFOA and PFOS.

36. **Defendant Chemguard, Inc. (“Chemguard”)** is a corporation organized under the laws of the State of Texas, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143.

37. On information and belief, Chemguard designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

38. On information and belief, Chemguard was acquired by Tyco International Ltd. in 2011.

39. **Defendant Buckeye Fire Equipment Company (“Buckeye”)** is a corporation organized under the laws of the State of Ohio, with its principal place of business located at 110 Kings Road, Kings Mountain, North Carolina 28086.

40. On information and belief, Buckeye designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

41. **Defendant National Foam, Inc. (“National Foam”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 141 Junny Road, Angier, North Carolina 27501.

42. Beginning in or around 1973, National Foam designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

43. On information and belief, National Foam currently manufactures the Angus brand of AFFF products and is a subsidiary of Angus International Safety Group.

44. On information and belief, National Foam merged with Chubb Fire Ltd. to form Chubb National Foam, Inc. in or around 1988.

45. On information and belief, Chubb is or has been composed of different subsidiaries and/or divisions, including but not limited to, Chubb Fire & Security Ltd., Chubb Security, PLC, Red Hawk Fire & Security, LLC, and/or Chubb National Foam, Inc. (collectively referred to as “Chubb”).

46. On information and belief, Chubb was acquired by Williams Holdings in 1997.

47. On information and belief, Angus Fire Armour Corporation had previously been acquired by Williams Holdings in 1994.

48. On information and belief, Williams Holdings was demerged into Chubb and Kidde P.L.C. in or around 2000.

49. On information and belief, when Williams Holdings was demerged, Kidde P.L.C. became the successor in interest to National Foam System, Inc. and Angus Fire Armour Corporation.

50. On information and belief, Kidde P.L.C. was acquired by United Technologies Corporation in or around 2005.

51. On information and belief, Angus Fire Armour Corporation and National Foam separated from United Technologies Corporation in or around 2013.

52. **Defendant Kidde-Fenwal, Inc. (“Kidde-Fenwal”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business at One Financial Plaza, Hartford, Connecticut 06101.

53. On information and belief, Kidde-Fenwal was an operating subsidiary of Kidde P.L.C. and manufactured AFFF following Kidde P.L.C.’s acquisition by United Technologies Corporation.

54. On information and belief, Kidde-Fenwal is the entity that divested the AFFF business unit now operated by National Foam in 2013.

55. **Defendant Carrier Global Corporation (“Carrier”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Boulevard, Palm Beach Gardens, Florida 33418.

56. On information and belief, Carrier was formed in March 2020 when United Technologies Corporation spun off its fire and security business before it merged with Raytheon Company in April 2020.

57. On information and belief, Kidde-Fenwal became a subsidiary of Carrier when United Technologies Corporation spun off its fire and security business in March 2020.

58. On information and belief, the AFFF Defendants designed, manufactured, marketed, distributed, and sold AFFF products containing PFOS, PFOA, and/or their chemical precursors that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed at CFD.

ii. The Fluorosurfactant Defendants

59. The term “**Fluorosurfactant Defendants**” refers collectively to Defendants 3M, , Arkema Inc., BASF Corporation, ChemDesign Products Incorporated, Chemguard Inc., Deepwater Chemicals, Inc., E.I. DuPont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, DuPont de Nemours Inc., and Dynax Corporation.

60. **Defendant Arkema Inc.** is a corporation organized and existing under the laws of Pennsylvania, with its principal place of business at 900 First Avenue, King of Prussia, PA 19406.

61. Arkema Inc. develops specialty chemicals and polymers.

62. Arkema, Inc. is an operating subsidiary of Arkema France, S.A.

63. On information and belief, Arkema Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

64. **Defendant BASF Corporation (“BASF”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 100 Park Avenue, Florham Park, New Jersey 07932.

65. On information and belief, BASF is the successor-in-interest to Ciba. Inc. (f/k/a Ciba Specialty Chemicals Corporation).

66. On information and belief, Ciba Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

67. **Defendant ChemDesign Products Inc. (“ChemDesign”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 2 Stanton Street, Marinette, WI, 54143.

68. On information and belief, ChemDesign designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products

69. **Defendant Deepwater Chemicals, Inc. (“Deepwater”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 196122 E County Road 40, Woodward, OK, 73801.

70. On information and belief, Deepwater Chemicals designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products

71. **Defendant Dynax Corporation (“Dynax”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 103 Fairview Park Drive, Elmsford, New York 10523.

72. On information and belief, Dynax entered into the AFFF market on or about 1991 and quickly became a leading global producer of fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors.

73. On information and belief, Dynax designed, manufactured, marketed, distributed, and sold fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

74. **Defendant E.I. du Pont de Nemours & Company (“DuPont”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 974 Centre Road, Wilmington, Delaware 19805.

75. **Defendant The Chemours Company (“Chemours Co.”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, P.O. Box 2047, Wilmington, Delaware, 19899.

76. In 2015, DuPont spun off its performance chemicals business to Chemours Co., along with vast environmental liabilities which Chemours Co. assumed, including those related to PFOS and PFOA and fluorosurfactants. On information and belief, Chemours Co. has supplied fluorosurfactants containing PFOS and PFOA, and/or their chemical precursors to manufacturers of AFFF products.

77. On information and belief, Chemours Co. was incorporated as a subsidiary of DuPont as of April 30, 2015. From that time until July 2015, Chemours Co. was a wholly-owned subsidiary of DuPont.

78. In July 2015, DuPont spun off Chemours Co. and transferred to Chemours Co. its “performance chemicals” business line, which includes its fluoroproducts business, distributing shares of Chemours Co. stock to DuPont stockholders, and Chemours Co. has since been an independent, publicly-traded company.

79. **Defendant The Chemours Company FC, LLC (“Chemours FC”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, Wilmington, Delaware, 19899.

80. **Defendant Corteva, Inc. (“Corteva”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Rd., Wilmington, Delaware 19805.

81. **Defendant Dupont de Nemours Inc. f/k/a DowDuPont, Inc. (“Dupont de Nemours Inc.”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Road, Wilmington, Delaware 19805 and 2211 H.H. Dow Way, Midland, Michigan 48674.

82. On June 1, 2019, DowDuPont separated its agriculture business through the spin-off of Corteva.

83. Corteva was initially formed in February 2018. From that time until June 1, 2019, Corteva was a wholly-owned subsidiary of DowDuPont.

84. On June 1, 2019, DowDuPont distributed to DowDuPont stockholders all issued and outstanding shares of Corteva common stock by way of a pro-rata dividend. Following that distribution, Corteva became the direct parent of E. I. Du Pont de Nemours & Co.

85. Corteva holds certain DowDuPont assets and liabilities, including DowDuPont's agriculture and nutritional businesses.

86. On June 1, 2019, DowDuPont, the surviving entity after the spin-off of Corteva and of another entity known as Dow, Inc., changed its name to DuPont de Nemours, Inc., to be known as DuPont ("New DuPont"). New DuPont retained assets in the specialty products business lines following the above-described spin-offs, as well as the balance of the financial assets and liabilities of E.I DuPont not assumed by Corteva.

87. Defendants E. I. Du Pont de Nemours and Company; The Chemours Company; The Chemours Company FC, LLC; Corteva, Inc.; and DuPont de Nemours, Inc. are collectively referred to as "DuPont" throughout this Complaint.

88. On information and belief, DuPont designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

89. On information and belief, 3M and Chemguard also designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

90. On information and belief, the Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed at CFD.

iii. The PFC Defendants

91. The term “**PFC Defendants**” refers collectively to 3M, AGC Chemicals Americas Inc., Archroma U.S. Inc., ChemDesign Products Inc., Chemicals, Inc., Clariant Corporation, Deepwater Chemicals, Inc., E. I. DuPont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, Corteva, Inc., DuPont de Nemours Inc., and Nation Ford Chemical Company.

92. **Defendant AGC Chemicals Americas, Inc. (“AGC”)** is a corporation organized and existing under the laws of Delaware, having its principal place of business at 55 East Uwchlan Avenue, Suite 201, Exton, PA 19341.

93. On information and belief, AGC Chemicals Americas, Inc. was formed in 2004 and is a subsidiary of AGC Inc., a foreign corporation organized under the laws of Japan, with its a principal place of business in Tokyo, Japan.

94. AGC manufactures specialty chemicals. It offers glass, electronic displays, and chemical products, including resins, water and oil repellants, greenhouse films, silica additives, and various fluorointermediates.

95. On information and belief, AGC designed, manufactured, marketed, distributed, and sold PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

96. **Defendant Archroma U.S., Inc. (“Archroma”)** is a corporation organized and existing under the laws of Delaware, with its a principal place of business at 5435 77 Center Drive, Charlotte, North Carolina 28217.

97. On information and belief, Archroma was formed in 2013 when Clariant Corporation divested its textile chemicals, paper specialties, and emulsions business to SK Capital Partners.

98. On information and belief, Archroma designed, manufactured, marketed, distributed, and sold PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

99. **Defendant Chemicals, Inc. (“Chemicals, Inc.”)** is a corporation organized and existing under the laws of Texas, with its principal place of business located at 12321 Hatcherville, Baytown, TX 77520.

100. On information and belief, Chemicals, Inc. supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

101. **Defendant Clariant Corporation (“Clariant”)** is a corporation organized and existing under the laws of New York, with its principal place of business at 4000 Monroe Road, Charlotte, North Carolina 28205.

102. On information and belief, Clariant is the successor in interest to the specialty chemicals business of Sandoz Chemical Corporation (“Sandoz”). On information and belief, Sandoz spun off its specialty chemicals business to form Clariant in 1995.

103. On information and belief, Clariant supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

104. **Defendant Nation Ford Chemical Co. (“Nation Ford”)** is a corporation organized and existing under the laws of South Carolina, with its principal place of business located at 2300 Banks Street, Fort Mill, SC 29715.

105. On information and belief, Nation Ford supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

106. On information and belief, 3M, ChemDesign, Deepwater Chemicals, and DuPont also supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

107. On information and belief, the Fluorochemical Defendants supplied PFCs containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed at CFD.

iv. Doe Defendants 1-20

108. Doe Defendants 1-20 are unidentified entities or persons whose names are presently unknown and whose actions, activities, omissions (a) may have permitted, caused and/or contributed to the contamination of Plaintiff's water sources or supply wells; or (b) may be vicariously responsible for entities or persons who permitted, caused and/or contributed to the contamination of Plaintiff's water sources or supply wells; or (c) may be successors in interest to entities or persons who permitted, caused and/or permitted , contributed to the contamination of Plaintiff's water sources or supply wells. After reasonable search and investigation to ascertain the Doe Defendants actual names, the Doe Defendants' actual identities are unknown to Plaintiff as they are not linked with any of the Defendants on any public source.

109. The Doe Defendants 1-20 either in their own capacity or through a party they are liable for: (1) designed, manufactured, marketed, distributed, and/or sold AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the fluorosurfactants and/or PFCs contained in AFFF/Component Products; or (2) used, handled, transported, stored, discharged, disposed of, designed, manufactured, marketed, distributed, and/or sold PFOS, PFOA, and/or their chemical precursors, or other non-AFFF products containing PFOS, PFOA, and/or their chemical

precursors; or (3) failed to timely perform necessary and reasonable response and remedial measures to releases of PFOS, PFOA, and/or their chemical precursors, or other non-AFFF products containing PFOS, PFOA, and/or their chemical precursors in to the environment in which Plaintiff's water supplies and well exist.

110. All Defendants, at all times material herein, acted by and through their respective agents, servants, officers and employees, actual or ostensible, who then and there were acting within the course and scope of their actual or apparent agency, authority or duties. Defendants are liable based on such activities, directly and vicariously.

111. Defendants represent all or substantially all of the market for AFFF/Component Products at CFD.

FACTUAL ALLEGATIONS RELEVANT TO ALL CAUSES OF ACTION

A. PFOA and PFOS and Their Risk to Public Health

112. PFAS are chemical compounds containing fluorine and carbon. These substances have been used for decades in the manufacture of, among other things, household and commercial products that resist heat, stains, oil, and water. These substances are not naturally occurring and must be manufactured.

113. The two most widely studied types of these substances are PFOA and PFOS.

114. PFOA and PFOS have unique properties that cause them to be: (i) mobile and persistent, meaning that they readily spread into the environment where they break down very slowly; (ii) bioaccumulative and biomagnifying, meaning that they tend to accumulate in organisms and up the food chain; and (iii) toxic, meaning that they pose serious health risks to humans and animals.

115. PFOA and PFOS easily dissolve in water, and thus they are mobile and easily spread in the environment. PFOA and PFOS also readily contaminate soils and leach from the soil into groundwater, where they can travel significant distances.

116. PFOA and PFOS are characterized by the presence of multiple carbon-fluorine bonds, which are exceptionally strong and stable. As a result, PFOA and PFOS are thermally, chemically, and biologically stable. They resist degradation due to light, water, and biological processes.

117. Bioaccumulation occurs when an organism absorbs a substance at a rate faster than the rate at which the substance is lost by metabolism and excretion. Biomagnification occurs when the concentration of a substance in the tissues of organisms increases as the substance travels up the food chain.

118. PFOA and PFOS bioaccumulate/biomagnify in numerous ways. First, they are relatively stable once ingested, so that they bioaccumulate in individual organisms for significant periods of time. Because of this stability, any newly ingested PFOA and PFOS will be added to any PFOA and PFOS already present. In humans, PFOA and PFOS remain in the body for years.

119. PFOA and PFOS biomagnify up the food chain. This occurs, for example, when humans eat fish that have ingested PFOA and/or PFOS.

120. The chemical structure of PFOA and PFOS makes them resistant to breakdown or environmental degradation. As a result, they are persistent when released into the environment.

121. Exposure to PFAS is toxic and poses serious health risks to humans and animals.

122. PFAS are readily absorbed after consumption or inhalation and accumulate primarily in the bloodstream, kidney, and liver.

B. Defendants' Manufacture and Sale of AFFF/Component Products

123. AFFF is a type of water-based foam that was first developed in the 1960s to extinguish hydrocarbon fuel-based fires.

124. AFFF is a Class-B firefighting foam. It is mixed with water and used to extinguish fires that are difficult to fight, particularly those that involve petroleum or other flammable liquids.

125. AFFF is synthetically formed by combining fluorine-free hydrocarbon foaming agents with fluorosurfactants. When mixed with water, the resulting solution produces an aqueous film that spreads across the surface of hydrocarbon fuel. This film provides fire extinguishment and is the source of the designation aqueous film-forming foam.

126. Beginning in the 1960s, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products that used fluorosurfactants containing either PFOS, PFOA, or the chemical precursors that degrade into PFOS and PFOA.

127. AFFF can be made without the fluorosurfactants that contain PFOA, PFOS, and/or their precursor chemicals. Fluorine-free firefighting foams, for instance, do not release PFOA, PFOS, and/or their precursor chemicals into the environment.

128. AFFF that contains fluorosurfactants, however, is better at extinguishing hydrocarbon fuel-based fires due to their surface-tension lowering properties, essentially smothering the fire and starving it of oxygen.

129. The fluorosurfactants used in 3M's AFFF products were manufactured by 3M's patented process of electrochemical fluorination ("ECF").

130. The fluorosurfactants used in other AFFF products sold by the AFFF Defendants were manufactured by the Fluorosurfactant Defendants through the process of telomerization.

131. The PFCs the Fluorosurfactant Defendants needed to manufacture those fluorosurfactants contained PFOS, PFOA, and/or their chemical precursors and were designed, manufactured, marketed, distributed and/or sold by the PFC Defendants.

132. On information and belief, the PFC and Fluorosurfactant Defendants were aware that the PFCs and fluorosurfactants they designed, manufactured, marketed, distributed, and/or sold would be used in the AFFF products designed, manufactured, marketed, distributed, and/or sold by the AFFF Defendants.

133. On information and belief, the PFC and Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and/or sold the PFC and/or fluorosurfactants contained in the AFFF products discharged into the environment at CFD during fire protection, training, and response activities, resulting in widespread PFAS contamination.

134. On information and belief, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold the AFFF products discharged into the environment at CFD during fire protection, training, and response activities, resulting in widespread PFAS contamination.

C. Defendants' Knowledge of the Threats to Public Health and the Environment Posed by PFOS and PFOA

135. On information and belief, by at least the 1970s 3M and DuPont knew or should have known that PFOA and PFOS are mobile and persistent, bioaccumulative and biomagnifying, and toxic.

136. On information and belief, 3M and DuPont concealed from the public and government agencies its knowledge of the threats to public health and the environment posed by PFOA and PFOS.

137. Some or all of the Defendants understood how stable the fluorinated surfactants used in AFFF are when released into the environment from their first sale to a customer, yet they failed to warn their customers or provide reasonable instruction on how to manage wastes generated from their products.

i. 1940s and 1950s: Early Warnings About the Persistence of AFFF

138. In 1947, 3M started its fluorochemical program, and within four years, it began selling its PFOA to DuPont. The persistence and contaminating nature of the fluorosurfactants contained in AFFF products were understood prior to their commercial application at 3M's Cottage Grove facility in Minnesota.

139. The inventor of 3M's ECF process was J.H. Simons. Simons' 1948 patent for the ECF process reported that PFCs are "non-corrosive, and of little chemical reactivity," and "do not react with any of the metals at ordinary temperatures and react only with the more chemically reactive metals such as sodium, at elevated temperatures."¹

140. Simons further reported that fluorosurfactants produced by the ECF process do not react with other compounds or reagents due to the blanket of fluorine atoms surrounding the carbon skeleton of the molecule. 3M understood that the stability of the carbon-to-fluorine bonds prevented its fluorosurfactants from undergoing further chemical reactions or degrading under natural processes in the environment.²

141. The thermal stability of 3M's fluorosurfactants was also understood prior to commercial production. Simons' patent application further discloses that the fluorosurfactants

¹ Simons, J. H., Fluorination of Organic Compounds, U.S. Patent No. 2,447,717. August 24, 1948, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1005.pdf>.

² Simons, J. H., 1950. Fluorocarbons and Their Production. *Fluorine Chemistry*, 1(12): 401-422, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3008.pdf>.

produced by the ECF process were thermally stable at temperatures up to 750° C (1382° F). Additional research by 3M expanded the understanding of the thermal stability of perfluorocarbon compounds.³

142. Nowhere in any Material Safety Data Sheet for any of Defendants' AFFF/Component Products is information on the thermal stability of those products disclosed. Failure to disclose knowledge of the stability of the PFCs and fluorosurfactants used in AFFF products to customers is a failure to warn just how indestructible the AFFF's ingredients are when released to unprotected water sources and even treatment plants.

ii. 1960s: AFFF's Environmental Hazards Come Into Focus

143. By at least the end of the 1960s, additional research and testing performed by 3M and DuPont indicated that fluorosurfactants, including at least PFOA, because of their unique chemical structure, were resistant to environmental degradation and would persist in the environment essentially unaltered if allowed to enter the environment.

144. One 3M employee wrote in 1964: "This chemical stability also extends itself to all types of biological processes; there are no known biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon."⁴ Thus, 3M knew by the mid-1960s that its surfactants were immune to chemical and biological degradation in soils and groundwater.

145. 3M also knew by 1964 that when dissolved, fluorocarbon carboxylic acids and fluorocarbon sulfonic acids dissociated to form highly stable perfluorocarboxylate and perfluorosulfonate ions. Later studies by 3M on the adsorption and mobility of FC-95 and FC-143

³ Bryce, T. J., 1950. Fluorocarbons - Their Properties and Wartime Development. *Fluorine Chemistry*, 1(13): 423-462.

⁴ Bryce, H.G., *Industrial and Utilitarian Aspects of Fluorine Chemistry* (1964), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3022.pdf>.

(the ammonium salt of PFOA) in soils indicated very high solubility and very high mobility in soils for both compounds.⁵

iii. 1970s: Internal Studies Provide Evidence of Environmental and Health Risks

146. By 1950, 3M knew that the fluorosurfactants used in its AFFF product(s) would not degrade when released to the environment but would remain intact and persist. Two decades later—and after the establishment of a robust market of AFFFs using fluorosurfactants—3M finally got around to looking at the environmental risks that fluorosurfactants posed.

147. An internal memo from 3M in 1971 states that “the thesis that there is ‘no natural sink’ for fluorocarbons obviously demands some attention.”⁶ Hence, 3M understood at the very least that the fluorosurfactant used in its AFFF products would, in essence, never degrade once it was released into the environment.

148. By the mid-1970s, 3M and Ansul (and possibly other Defendants) had an intimate understanding of the persistent nature of PFCs. A 1976 study, for example, observed no biodegradation of FC-95, the potassium salt of PFOS; a result 3M characterized as “unsurprising” in light of the fact that “[b]iodegradation of FC 95 is improbable because it is completely fluorinated.”⁷

149. In 1977, Ansul authored a report titled “Environmentally Improved AFFF,” which acknowledged that releasing AFFF into the environment could pose potential negative impacts to groundwater quality.⁸ Ansul wrote: “The purpose of this work is to explore the development of

⁵ Technical Report Summary re : Adsorption of FC 95 and FC143 on Soil, Feb. 27, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1158.pdf>.

⁶ Memorandum from H.G. Bryce to R.M. Adams re : Ecological Aspects of Fluorocarbons, Sept. 13, 1971, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1088.pdf>.

⁷ Technical Report Summary, August 12, 1976 [3MA01252037].

⁸ Ansul Co., Final Report: Environmentally Improved AFFF, N00173-76-C-0295, Marinette, WI, Dec. 13,

experimental AFFF formulations that would exhibit reduced impact on the environment while retaining certain fire suppression characteristic . . . improvements [to AFFF formulations] are desired in the environmental area, i.e., development of compositions that have a reduced impact on the environment without loss of fire suppression effectiveness.” Thus, Ansul knew by the mid-1970s that the environmental impact of AFFF needed to be reduced, yet there is no evidence that Ansul (or any other Defendant) ever pursued initiatives to do so.

150. A 1978 3M biodegradation study likewise reported that an “extensive study strongly suggest[ed]” one of its PFCs is “likely to persist in the environment for extended period unaltered by metabolic attack.”⁹ A year later, a 3M study reported that one of its fluorosurfactants “was found to be completely resistant to biological test conditions,” and that it appeared waterways were the fluorosurfactant’s “environmental sink.”¹⁰

151. In 1979, 3M also completed a comprehensive biodegradation and toxicity study covering investigations between 1975 and 1978.¹¹ More than a decade after 3M began selling AFFF containing fluorosurfactants it wrote: “there has been a general lack of knowledge relative to the environmental impact of these chemicals.” The report ominously asked, “If these materials are not biodegradable, what is their fate in the environment?”

1977, available at <https://apps.dtic.mil/dtic/tr/fulltext/u2/a050508.pdf>.

⁹ Technical Report Summary re : Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons - II, Jan. 1, 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1153.pdf>.

¹⁰ Technical Report Summary re : Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons - III, July 19, 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1179.pdf>.

¹¹ Technical Report Summary, Final Comprehensive Report on FM 3422, Feb. 2, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2563.pdf>.

152. During the 1970s, 3M also learned that the fluorosurfactants used in AFFF accumulated in the human body and were “even more toxic” than previously believed.

153. In 1975, 3M learns that PFAS was present in the blood of the general population.¹² Since PFOA and PFOS are not naturally occurring, this finding should have alerted 3M to the possibility that their products were a source of this PFOS. The finding also should have alerted 3M to the possibility that PFOS might be mobile, persistent, bioaccumulative, and biomagnifying, as those characteristics could explain how PFOS from 3M's products ended up in human blood.

154. In 1976, 3M found PFAS in the blood of its workers at levels “up to 1000 times ‘normal’ amounts of organically bound fluorine in their blood.”¹³ This finding should have alerted 3M to the same issues raised by the prior year’s findings.

155. Studies by 3M in 1978 showed that PFOA reduced the survival rate of fathead minnow fish eggs,¹⁴ that PFOS was toxic to monkeys,¹⁵ and that PFOS and PFOA were toxic to rats.¹⁶ In the study involving monkeys and PFOS, all of the monkeys died within days of ingesting food contaminated with PFOS.

¹² Memorandum from G.H. Crawford to L.C. Krogh et al. re: Fluorocarbons in Human Blood Plasma, Aug. 20, 1975, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1118.pdf>.

¹³ 3M Chronology – Fluorochemicals in Blood, Aug. 26, 1977, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1144.pdf>.

¹⁴ The Effects of Continuous Aqueous Exposure to 78.03 on Hatchability of Eggs and Growth and Survival of Fry of Fathead Minnow, June 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1176.pdf>.

¹⁵ Ninety-Day Subacute Rhesus Monkey Toxicity Study, Dec. 18, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1191.pdf>; Aborted FC95 Monkey Study, Jan. 2, 1979, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1193.pdf>.

¹⁶ Acute Oral Toxicity (LD₅₀) Study in Rats (FC-143), May 5, 1978, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1170.pdf>; FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>.

156. In 1979, 3M and DuPont discussed 3M's discovery of PFOA in the blood of its workers and came to the same conclusion that there was "no reason" to notify the EPA of the finding.¹⁷

iv. 1980s and 1990s: Evidence of AFFF's Health Risks Continues to Mount

157. By at least the end of the 1980s, additional research and testing performed by Defendants, including at least 3M and DuPont, indicated that elevated incidence of certain cancers and other adverse health effects, including elevated liver enzymes and birth defects, had been observed among workers exposed to such materials, including at least PFOA, but such data was not published, provided to governmental entities as required by law, or otherwise publicly disclosed at the time.

158. In 1981, DuPont tested for and found PFOA in the blood of female plant workers Parkersburg, West Virginia. DuPont observed and documented pregnancy outcomes in exposed workers, finding two of seven children born to female plant workers between 1979 and 1981 had birth defects—one an "unconfirmed" eye and tear duct defect, and one a nostril and eye defect.¹⁸

159. In 1983, 3M researchers concluded that concerns about PFAS "give rise to concern for environmental safety," including "legitimate questions about the persistence, accumulation potential, and ecotoxicity of fluorochemicals in the environment."¹⁹ That same year, 3M completed a study finding that PFOS caused the growth of cancerous tumors in rats.²⁰ This finding was later

¹⁷ Memorandum from R.A. Prokop to J.D. Lazerte re: Disclosure of Information on Levels of Fluorochemicals in Blood, July 26, 1979, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2723.pdf>.

¹⁸ C-8 Blood Sampling Results, *available at* <http://tiny.cc/v8z1mz>.

¹⁹ 3M Environmental Laboratory (EE & PC), Fate of Fluorochemicals - Phase II, May 20, 1983, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1284.pdf>.

²⁰ Two Year Oral (Diet) Toxicity/Carcinogenicity Study of Fluorochemical FC-143 in Rats, Volume 1 of 4, Aug. 29, 1987, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1337.pdf>.

shared with DuPont and led them to consider whether “they may be obliged under their policy to call FC-143 a carcinogen in animals.”²¹

160. In 1984, 3M documented a trend of increasing levels of PFOS in the bodies of 3M workers, leading one of the company’s medical officers to warn in an internal memo: “we must view this present trend with serious concern. It is certainly possible that . . . exposure opportunities are providing a potential uptake of fluorochemicals that exceeds excretion capabilities of the body.”²²

161. A 1997 material safety data sheet (“MSDS”) for a non-AFFF product made by 3M listed its only ingredients as water, PFOA, and other perfluoroalkyl substances and warned that the product includes “a chemical which can cause cancer.” The MSDS cited “1983 and 1993 studies conducted jointly by 3M and DuPont” as support for this statement. On information and belief, the MSDS for 3M’s AFFF products did not provide similar warnings or information.

v. Defendants Hid What They Knew from the Government and the Public.

162. Federal law requires chemical manufacturers and distributors to immediately notify the EPA if they have information that “reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.” Toxic Substances Control Act (“TSCA”) § 8(e), 15 U.S.C. § 2607(e)

163. In April 2006, 3M agreed to pay EPA a penalty of more than \$1.5 million after being cited for 244 violations of the TSCA, which included violations for failing to disclose studies regarding PFOS, PFOA, and other PFCs dating back decades.

²¹ Memorandum from R.G. Perkins to F.D. Griffith re: Summary of the Review of the FC-143 Two-Year Feeder Study Report to be presented at the January 7, 1988 meeting with DuPont, January 5, 1988, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1343.pdf>.

²² Memorandum from D.E. Roach to P.F. Riehle re: Organic Fluorine Levels, Aug. 31, 1984, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1313.pdf>.

164. Likewise, in December 2005, the EPA announced it was imposing the “Largest Environmental Administrative Penalty in Agency History” against DuPont based on evidence that it violated the TSCA by concealing the environmental and health effects of PFOA.

165. On information and belief, Defendants knew or should have known that AFFF containing PFOA or PFOS would very likely injure and/or threaten public health and the environment, even when used as intended or directed.

166. Defendants failed to warn of these risks to the environment and public health, including the impact of their AFFF/Component Products on the quality of unprotected water sources.

167. Defendants were all sophisticated and knowledgeable in the art and science of designing, formulating, and manufacturing AFFF/Component Products. They understood far more about the properties of their AFFF/Component Products—including the potential hazards they posed to human health and the environment—than any of their customers. Still, Defendants declined to use their sophistication and knowledge to design safer products.

D. The Impact of PFOS and PFOA on the Environment and Human Health Is Finally Revealed

168. As discussed above, neither 3M, DuPont, nor, on information and belief, any other Defendant complied with their obligations to notify EPA about the “substantial risk of injury to health or the environment” posed by their AFFF/Component Products. *See* TSCA § 8(e).

169. Despite decades of research, 3M first shared its concerns with EPA in the late 1990s. In a May 1998 report submitted to EPA, “3M chose to report simply that PFOS had been found in the blood of animals, which is true but omits the most significant information,” according to a former 3M employee.²³

²³ Letter from R. Purdy, Mar. 28, 1999, *available at*

170. On information and belief, 3M began in 2000 to phase out its production of products that contained PFOS and PFOA in response to pressure from the EPA.

171. Once the truth about PFOS and PFOA was revealed, researchers began to study the environmental and health effects associated with them, including a “C8 Science Panel” formed out of a class action settlement arising from contamination from DuPont’s Washington Works located in Wood County, West Virginia.

172. The C8 panel consisted of three epidemiologists specifically tasked with determining whether there was a probable link between PFOA exposure and human diseases. In 2012, the panel found probable links between PFOA and kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, pregnancy-induced hypertension (including preeclampsia), and hypercholesterolemia.

173. Human health effects associated with PFOS exposure include immune system effects, changes in liver enzymes and thyroid hormones, low birth weight, high uric acid, and high cholesterol. In laboratory testing on animals, PFOA and PFOS have caused the growth of tumors, changed hormone levels, and affected the function of the liver, thyroid, pancreas, and immune system.

174. The injuries caused by PFAS can arise months or years after exposure.

175. Even after the C8 Science Panel publicly announced that human exposure to 50 parts per trillion, or more, of PFOA in drinking water for one year or longer had “probable links” with certain human diseases, including kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, preeclampsia, and medically-diagnosed high cholesterol, Defendants repeatedly assured and represented to governmental entities, their customers, and the public (and continue to do so)

<https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1001.pdf>.

that the presence of PFOA in human blood at the levels found within the United States presents no risk of harm and is of no legal, toxicological, or medical significance of any kind.

176. Furthermore, Defendants have represented to and assured such governmental entities, their customers, and the public (and continue to do so) that the work of the independent C8 Science Panel was inadequate to satisfy the standards of Defendants to prove such adverse effects upon and/or any risk to humans with respect to PFOA in human blood.

177. At all relevant times, Defendants, through their acts and/or omissions, controlled, minimized, trivialized, manipulated, and/or otherwise influenced the information that was published in peer-review journals, released by any governmental entity, and/or otherwise made available to the public relating to PFAS in human blood and any alleged adverse impacts and/or risks associated therewith, effectively preventing the public from discovering the existence and extent of any injuries/harm as alleged herein.

178. On May 2, 2012, the EPA published its Third Unregulated Contaminant Monitoring Rule (“UCMR3”), requiring public water systems nationwide to monitor for thirty contaminants of concern between 2013 and 2015, including PFOS and PFOA.²⁴

179. In the May 2015 “Madrid Statement on Poly- and Perfluoroalkyl Substances (PFAS’s),” scientists and other professionals from a variety of disciplines, concerned about the production and release into the environment of PFOA, called for greater regulation, restrictions, limits on the manufacture and handling of any PFOA containing product, and to develop safe non-fluorinated alternatives to these products to avoid long-term harm to human health and the environment.²⁵

²⁴ *Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems*, 77 Fed. Reg. 26072 (May 2, 2012).

²⁵ Blum A, Balan SA, Scheringer M, Trier X, Goldenman G, Cousins IT, Diamond M, Fletcher T, Higgins

180. On May 25, 2016, the EPA released a lifetime health advisory (HAs) and health effects support documents for PFOS and PFOA.²⁶ *See* Fed. Register, Vol. 81, No. 101, May 25, 2016. The EPA developed the HAs to assist governmental officials in protecting public health when PFOS and PFOA are present in drinking water. The EPA HAs identified the concentration of PFOS and PFOA in drinking water at or below which adverse health effects are not anticipated to occur over a lifetime of exposure at 0.07 ppb or 70 ppt. The HAs were based on peer-reviewed studies of the effects of PFOS and PFOA on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations exposed to PFOS. These studies indicate that exposure to PFOS and PFOA over these levels may result in adverse health effects, including:

- a. Developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations);
- b. Cancer (testicular and kidney);
- c. Liver effects (tissue damage);
- d. Immune effects (e.g., antibody production and immunity);
- e. Thyroid disease and other effects (e.g., cholesterol changes).

181. In addition, PFOS and PFOA are hazardous materials because they pose a “present or potential threat to human health.”²⁷

C, Lindeman AE, Peaslee G, de Voogt P, Wang Z, Weber R. 2015. The Madrid statement on poly- and perfluoroalkyl substances (PFASs). *Environ Health Perspect* 123:A107–A111; <http://dx.doi.org/10.1289/ehp.1509934>.

²⁶ *See* Fed. Register, Vol. 81, No. 101, May 25, 2016, Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate.

²⁷ *Id.*; *see also National Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 3, 6 (D.C. Cir. 2015) (referring to PFOS as a “toxic compound” and a “hazardous chemical.”).

182. In 2016, the National Toxicology Program of the United States Department of Health and Human Services (“NTP”) and the International Agency for Research on Cancer (“IARC”) both released extensive analyses of the expanding body of research regarding the adverse effects of PFCs. The NTP concluded that both PFOA and PFOS are “presumed to be an immune hazard to humans” based on a “consistent pattern of findings” of adverse immune effects in human (epidemiology) studies and “high confidence” that PFOA and PFOS exposure was associated with suppression of immune responses in animal (toxicology) studies.²⁸

183. IARC similarly concluded that there is “evidence” of “the carcinogenicity of . . . PFOA” in humans and in experimental animals, meaning that “[a] positive association has been observed between exposure to the agent and cancer for which a causal interpretation is . . . credible.”²⁹

184. California has listed PFOA and PFOS to its Proposition 65 list as a chemical known to cause reproductive toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986.³⁰

185. The United States Senate and House of Representatives passed the National Defense Authorization Act in November 2017, which included \$42 Million to remediate PFC

²⁸ See U.S. Dep’t of Health and Human Services, Nat’l Toxicology Program, *NTP Monograph: Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid or Perfluorooctane Sulfonate* (Sept. 2016), at 1, 17, 19, available at https://ntp.niehs.nih.gov/ntp/ohat/pfoa_pfos/pfoa_pfosmonograph_508.pdf

²⁹ See Int’l Agency for Research on Cancer, IARC Monographs: *Some Chemicals Used as Solvents and in Polymer Manufacture* (Dec. 2016), at 27, 97, available at <http://monographs.iarc.fr/ENG/Monographs/vol110/mono110.pdf>.

³⁰ California Office of Environmental Health Hazard Assessment, *Chemicals Listed Effective Nov. 10, 2017 as Known to the State of California to Cause Reproductive Toxicity: Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS)*, Nov. 9, 2017, available at <https://oehha.ca.gov/proposition-65/cmr/chemicals-listed-effective-november-10-2017-known-state-california-cause>.

contamination from military bases, as well as devoting \$7 Million toward the Investing in Testing Act, which authorizes the Center for Disease Control and Prevention (“CDC”) to conduct a study into the long-term health effects of PFOA and PFOS exposure.³¹ The legislation also required that the Department of Defense submit a report on the status of developing a new military specification for AFFF that did not contain PFOS or PFOA.³²

186. In June 2018, the Agency for Toxic Substances and Disease Registry (“ATSDR”) and EPA released a draft toxicological profile for PFOS and PFOA and recommended the drinking water advisory levels be lowered to 11 ppt for PFOA and 7 ppt for PFOS.³³

187. On February 20, 2020, the EPA announced a proposed decision to regulate PFOA and PFOS under the Safe Drinking Water Act, which the agency characterized as a “key milestone” in its efforts to “help communities address per- and polyfluoroalkyl substances (PFAS) nationwide.”³⁴ Following a public comment period on its proposed decision, the EPA will decide whether to move forward with the process of establishing a national primary drinking water regulation for PFOA and PFOS.

188. On June 15, 2022, the EPA released new drinking water health advisory levels (HALs) for four PFAS, including new interim HALs for PFOS and PFOA that departed significantly from the 2016 EPA HAL they replaced.³⁵ *See* Fed. Register, Vol. 87, No. 36848, June

³¹ National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Congress (2017), available at <https://www.congress.gov/115/plaws/publ91/PLAW-115publ91.pdf>.

³² *Id.*; see also U.S. Department of Defense, *Alternatives to Aqueous Film Forming Foam Report to Congress*, June 2018, available at <https://www.denix.osd.mil/derp/home/documents/alternatives-to-aqueous-film-forming-foam-report-to-congress/>.

³³ ATSDR, *Toxicological Profile for Perfluoroalkyls: Draft for Public Comment* (June 2018), available at <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>.

³⁴ Press Release, *EPA Announces Proposed Decision to Regulate PFOA and PFOS in Drinking Water*, Feb. 20, 2020, available at <https://www.epa.gov/newsreleases/epa-announces-proposed-decision-regulate-pfoa-and-pfos-drinking-water>.

³⁵ *See* Fed. Register, Vol. 87, No. 36848, June 21, 2022, Lifetime Drinking Water Health Advisories for Four

21, 2022. Specifically, EPA issued HALs of 0.004 ppt for PFOA and 0.02 ppt for PFOS,³⁶ which collectively accounted for only a small fraction of the combined 70 ppt HAL that preceded them. Importantly, EPA set these interim HALs at levels below which PFOS and PFOA can be measured using current analytic methods, meaning that the mere detection of PFOS or PFOA in a water provider's system would be sufficient on its own to exceed the new levels.

189. As support for its decision, EPA explained that the science had evolved since 2016 and that the new interim HALs for PFOS and PFOA were “based on human studies” that “found associations between PFOA and/or PFOS exposure and effects on the immune system, the cardiovascular system, human development (e.g., decreased birth weight), and cancer.”³⁷ Specifically, EPA had performed updated health effects analyses for PFOS and PFOA to provide support for the drinking water regulations the agency planned to adopt for the two chemicals under the SDWA. Based on these analyses, EPA concluded that “the levels at which negative health effects could occur are much lower than previously understood when EPA issued the 2016 health advisories for PFOA and PFOS – including near zero for certain health effects.”³⁸ For this reason, the agency determined there was a “pressing need to provide updated information on the current best available science to public health officials prior to finalization of the health effects assessment.”³⁹

Perfluoroalkyl Substances.

³⁶ *Id.*

³⁷ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Communities* at 1-2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-communities.pdf>.

³⁸ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

³⁹ EPA Office of Water, EPA Doc. No. 822-R-22-003, *INTERIM Drinking Water Health Advisory: Perfluorooctanoic Acid (PFOA) CASRN 335-67-1* at 18 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/interim-pfoa-2022.pdf>; EPA Office of Water, EPA Doc. No. 822-R-22-004, *INTERIM Drinking Water Health Advisory: CASRN 1763-23-1* at 18 (June 2022), available at

190. Because the referenced health analyses are still undergoing final review by EPA's Science Advisory Board, the agency has stated that the new interim HALs for PFOS and PFOA are subject to change. EPA has indicated, however, that it does not anticipate any changes resulting in revised HALs for PFOS and PFOA that are greater than the 4 ppt minimum reporting level⁴⁰ that applies to Public Water Systems.⁴¹

E. PFAS Contamination at the Chelmsford Fire Department

191. The Chelmsford Fire Department ("CFD") Headquarter is located at 50 Billerica Road, Chelmsford, MA 01824.

192. The Chelmsford Fire Station 2 is located at 35 Princeton Street, North Chelmsford, Massachusetts, 01863.

193. The Chelmsford Fire Station 3 is located at 260 Old Westford Road, Chelmsford Massachusetts 01824.

194. The Chelmsford Fire Station 4 is located at 115 Riverneck Road, Chelmsford, Massachusetts 01824.

195. The CFD furnishes the citizens of the Town of Chelmsford with a comprehensive and responsible delivery system of fire protection, fire suppression, rescue, and emergency medical services through its headquarters and its four fire stations, in order to provide life safety and the protection of property.

<https://www.epa.gov/system/files/documents/2022-06/interim-pfos-2022.pdf>.

⁴⁰ As EPA's website explains, the Minimum Reporting Level ("MRL") for Unregulated Contaminant Monitoring Rule (UCMR) 5 is the minimum quantitation level that, with 95 percent confidence, can be achieved by capable analysts at 75 percent or more of the laboratories using a specified analytical method. The MRLs in EPA's chart are based on the UCMR 5 requirement to use EPA Method 533.

⁴¹ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

196. On information and belief, the CFD used its Fire Stations, buildings and surroundings areas for years to train fire fighters and fire brigades on firefighting equipment and techniques. This type of training regularly included the use of AFFF as an extinguishing agent for Class B fires.

197. Instructions, warning, labels and material safety data sheets that were provided with the AFFF foams by the Defendants, did not reasonably nor adequately describe the health and environmental hazards of AFFF, which Defendants knew or should have known.

198. Unaware of the toxic hazards of AFFF to the human health and the environment, CFD stored, used, and discharged Defendants' AFFF/Component Products for years as part of the fire training exercises hosted at CFD and its fire stations.

199. On information and belief, Plaintiff's contamination is a direct and proximate result of fire protection, training, and response activities at CFD and its fire stations that used AFFF, resulting in the migration of PFAS into Plaintiff's water supplies.

F. PFAS Contamination at Chelmsford Water District ("CWD")

200. The CWD water supply system comes from 20 sources and draws water from the Merrimack and Concord River basins. CWD distribution reservoirs holds one of Massachusetts's largest capacities, 15.3 million gallons of water. Combined, CWD's facilities provide roughly 1 billion gallons of clean drinking water each year to their clients.

201. The CWD has three water treatment plants:

- a. the Riverneck Road Treatment Plant;
- b. the Crooked Spring Treatment Plant: Nine of the District's wells, including the four gravel-packed wells at the Meadowbrook #3 Pumping Station are processed through this plant which utilizes aeration and greensand filtration techniques to remove

elevated levels of iron and manganese from these wells. This plant has emergency redundancy built into it by the inclusion of a backup UV Disinfection System; and

c. the Riverneck Treatment Plant Raw.

202. Between August 2020, and December 2021, the CWD conducted PFAS sampling of all its water treatment plants. PFAS6 compounds were detected in the drinking water in violation of the Mass DEP MCL of 20 ppt for PFAS6.

203. For example, some of the highest results of PFAS6 sampling from at CWD's water sources for 2020 are the following:

Sample Location	Date of Sample	Results PFAS6
Riverneck WTP Finished Water	07/29/2020	14.5 ppt
Turnpike Well #1 Raw Water	11/10/2020	24.1 ppt
Canal Street Well #2 Raw Water	11/10/2020	20.2 ppt
Crooked Spring WTP	11/10/2020	20.7 ppt
Meadow Brook WF #3 Raw Water	11/10/2020	23.9 ppt
Canal Street Well #1 Raw Water	11/10/2020	20.2 ppt
Crooked Spring WTP Finished Water	07/29/2020	23.3 ppt

204. For 2021, some of the highest results of PFAS6 sampling from at CWD's water sources are the following:

Sample Location	Date of Sample	Results PFAS6
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Riverneck WTP Finished Water	04/14/2021	14 ppt
Crooked Spring WTP Finished Water	06/16/2021	23 ppt
Riverneck WTP Finished Water	12/16/2021	19.6 ppt
Riverneck WTP Finished Water	11/17/2021	21.4 ppt
Crooked Spring WTP Finished Water	07/07/2021	25 ppt
Smith Street WTP Finished Water	09/08/2021	11 ppt

205. For 2022, some of the highest results of PFAS6 sampling from at CWD's water sources are the following:

Sample Location	Date of Sample	Results PFAS6
Riverneck WTP Finished Water	04/13/2022	21 ppt
Riverneck WTP Finished Water	01/13/2022	17.0 ppt
Crooked Spring WTP – Finished	01/13/2022	17.3 ppt
Crooked Spring WTP – Finished	06/09/2022	18.9 ppt
Crooked Spring WTP	04/13/2022	17.3 ppt
Crooked Spring WTP – Finished	03/08/2022	15.1 ppt
Canal Street WTP	02/15/2022	20.01 ppt

Riverneck WTP Finished Water	02/15/2022	16.9 ppt
Smith Street WTP Finished Water	06/09/2022	11.6 ppt

206. On information and belief, the above contamination is a direct and proximate result of fire protection, training, and response activities using AFFF at CFD and its fire stations, that resulted in the migration of PFAS into Plaintiff's groundwater supplies and water treatment plants.

207. Due to the persistent and long-term nature of PFAS contamination, Plaintiff is expected to suffer damages and incur the costs associated with these and other necessary remedial actions for many years to come.

208. Such actions includes, but are not limited to, additional testing and monitoring for PFAS, planning, designing, purchasing, installing, and maintaining water filtration systems to remove these chemicals, infrastructure modifications, and contingency planning.

209. As part of the PFAS remediation process, CWD is in the early stages of planning and designing a PFAS treatment facility at the Crooked Springs Water Treatment Plant. CWD estimates that it will have to incur in highly costs to build and operate the PFAS treatment facility.

210. Through this action, Plaintiff seeks compensatory damages for the harm done to its property and the costs associated with investigating, remediating, and monitoring its drinking water supplies contaminated with PFAS due to the use of AFFF at the CFD and its fire stations.

G. AFFF Containing PFOS and PFOA Is Fungible and Commingled in the Groundwater

211. AFFF containing PFOS and/or PFOA, once it has been released to the environment, lacks characteristics that would enable identification of the company that manufactured that particular batch of AFFF or chemical feedstock.

212. A subsurface plume, even if it comes from a single location, such as a retention pond or fire training area, originates from mixed batches of AFFF and chemical feedstock coming from different manufacturers.

213. Because precise identification of the specific manufacturer of any given AFFF/Component Product that was a source of the PFAS found at CWD is nearly impossible, given certain exceptions, Plaintiff must pursue all Defendants, jointly and severally.

214. Defendants are also jointly and severally liable because they conspired to conceal the true toxic nature of PFOS and PFOA, to profit from the use of AFFF/Component Products containing PFOS and PFOA, at Plaintiff's expense, and to attempt to avoid liability.

**MARKET SHARE LIABILITY, ALTERNATIVE LIABILITY,
CONCERT OF ACTION, AND ENTERPRISE LIABILITY**

215. Defendants in this action are manufacturers that control a substantial share of the market for AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors in the United States and are jointly responsible for the contamination of the groundwater at CWD. Market share liability attaches to all Defendants and the liability of each should be assigned according to its percentage of the market for AFFF/Component Products at issue in this Complaint.

216. Because PFAS is fungible, it is impossible to identify the exact Defendant who manufactured any given AFFF/Component Product containing PFOS, PFOA, and/or their chemical precursors found free in the air, soil or groundwater, and each of these Defendants participated in a territory-wide and U.S. national market for AFFF/Component Products during the relevant time.

217. Concert of action liability attaches to all Defendants, each of which participated in a common plan to commit the torts alleged herein and each of which acted tortuously in pursuance

of the common plan to knowingly manufacture and sell inherently dangerous AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors.

218. Enterprise liability attaches to all the named Defendants for casting defective products into the stream of commerce.

CAUSES OF ACTION

COUNT I: **DEFECTIVE DESIGN**

219. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 218 above, and further alleges the following:

220. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to all persons whom its products might foreseeably harm, including Plaintiff, and not to market any product which is unreasonably dangerous in design for its reasonably anticipated use.

221. Defendants' AFFF/Component Products were unreasonably dangerous for its reasonably anticipated uses for the following reasons:

- a. PFAS causes extensive groundwater contamination, even when used in its foreseeable and intended manner;
- b. Even at extremely low levels, PFAS render drinking water unfit for consumption;
- c. PFAS poses significant threats to public health; and
- d. PFAS create real and potential environmental damage.

222. Defendants knew of these risks and failed to use reasonable care in the design of their AFFF/Component Products.

223. AFFF containing PFOS, PFOA, and/or their chemical precursors poses a greater danger to the environment and to human health than would be expected by ordinary persons such as Plaintiff and the general public.

224. At all times, Defendants were capable of making AFFF/Component Products that did not contain PFOS, PFOA, and/or their chemical precursors. Thus, reasonable alternative designs existed which were capable of preventing Plaintiff's injuries.

225. The risks posed by AFFF containing PFOS, PFOA, and/or their chemical precursors far outweigh the products' utility as a flame-control product.

226. The likelihood that Defendants' AFFF/Component Products would be spilled, discharged, disposed of, or released into the environment and contaminated CWD's water supply wells, water treatment plants and properties, far outweighed any burden on Defendants to adopt an alternative design, and outweighed the adverse effect, if any, of such alternative design on the utility of the product.

227. As a direct and proximate result of Defendants' unreasonably dangerous design, manufacture, and sale of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Plaintiff has CWD's water supply wells, water treatment plants and properties.

228. Defendants knew that it was substantially certain that their acts and omissions described above would result in Plaintiff's contamination of its water supply wells, water treatment plants and properties. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

COUNT II:
FAILURE TO WARN

229. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 228 above, and further alleges the following:

230. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants had a duty to provide adequate warnings of the risks of these products to all persons whom its product might foreseeably harm, including Plaintiff and the public.

231. Defendants' AFFF/Component Products were unreasonably dangerous for its reasonably anticipated uses for the following reasons:

- a. PFAS causes extensive groundwater contamination, even when used in its foreseeable and intended manner;
- b. Even at extremely low levels, PFAS render drinking water unfit for consumption;
- c. PFAS poses significant threats to public health; and
- d. PFAS create real and potential environmental damage.

232. Defendants knew of the health and environmental risks associated with their AFFF/Component Products and failed to provide a warning that would lead an ordinary reasonable user or handler of a product to contemplate the dangers associated with their products or an instruction that would have avoided Plaintiff's injuries.

233. Despite Defendants' knowledge of the environmental and human health hazards associated with the use and/or disposal of their AFFF/Component Products in the vicinity of drinking water supplies, including PFAS contamination of public drinking supplies and private wells, Defendants failed to issue any warnings, instructions, recalls, or advice regarding their AFFF/Component Products to Plaintiff, governmental agencies or the public.

234. As a direct and proximate result of Defendants' failure to warn, Plaintiff's water supply wells, water treatment plants and properties have been contaminated.

235. Defendants knew that it was substantially certain that their acts and omissions described above would result in the contamination of Plaintiff's water supply wells, water treatment plants and properties. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

COUNT III:
NEGLIGENCE

236. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 235 above, and further alleges the following:

237. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to Plaintiff and to all persons whom its products might foreseeably harm and to exercise due care in the formulation, manufacture, sale, labeling, warning, and use of PFAS-containing AFFF.

238. Defendants owed a duty to Plaintiff to act reasonably and not place inherently dangerous AFFF/Component Products into the marketplace when its release into the air, soil, and water was imminent and certain.

239. Defendants knew or should have known that PFAS were leaching from AFFF used for fire protection, training, and response activities.

240. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and high likely to contaminate water supplies if released into the environment.

241. Defendants knew or should have known that the manner in which they were designing, manufacturing, marketing, distributing, and selling their AFFF/Component Products would result in the contamination of Plaintiff's water supply wells, water treatment plants and properties.

242. Despite the fact that Defendants knew or should have known that PFAS are toxic, can contaminate water resources and are carcinogenic, Defendants negligently:

- a. designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, and/or sold AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors;
- b. issued deficient instructions on how their AFFF/Component Products should be used and disposed of, thereby permitting PFAS to contaminate the groundwater in and around CWD;
- c. failed to recall and/or warn the users of their AFFF/Component Products of the dangers of groundwater contamination as a result of standard use and disposal of their products;
- d. failed and refused to issue the appropriate warning and/or recalls to the users of their AFFF/Component Products; and
- e. failing to take reasonable, adequate, and sufficient steps or actions to eliminate, correct, or remedy any contamination after it occurred.

243. The magnitude of the burden on the Defendants to guard against this foreseeable harm to Plaintiff was minimal, as the practical consequences of placing this burden on the Defendants amounted to a burden to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products.

244. As manufacturers, Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products, and to take steps to eliminate, correct, or remedy any contamination they caused.

245. As a direct and proximate result of Defendants' negligence, Plaintiff has suffered the contamination of its water supply wells, water treatment plants and properties.

246. Defendants knew that it was substantially certain that their acts and omissions described above would result in the contamination of Plaintiff's water supply wells, water treatment and properties. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

COUNT IV:
PUBLIC NUISANCE

247. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 246 above, and further alleges the following:

248. As manufacturers of AFFF/Component Products containing PFAS, including but not limited to PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to Plaintiff and to all persons whom its products might foreseeably harm and to exercise due care in the formulation, manufacture, sale, marketing, labeling, advertising, warning, and use of PFAS-containing AFFF.

249. Defendants owed a duty to Plaintiff to act reasonably and not place inherently dangerous AFFF/Component Products into the marketplace when its release into the air, soil, and water was imminent and certain.

250. Defendants knew or should have known that PFAS from AFFF used for fire protection, training, and response activities would enter into the environment, including groundwater and groundwater sources located at, beneath or nearby the place it was so used.

251. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and high likely to contaminate water supplies if released into the environment.

252. Defendants knew or should have known that the manner in which they were designing, manufacturing, marketing, distributing, and selling their AFFF/Component Products would result in injury and damage, including PFAS contamination of groundwater and drinking and potable water supply wells.

253. Despite the fact that Defendants knew or should have known that PFAS are toxic, can contaminate water resources and are carcinogenic, Defendants negligently:

- a. designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, advertised, and/or sold AFFF/Component Products containing PFAS, including but not limited to PFOS, PFOA, and/or their chemical precursors;
- b. issued deficient instructions and precautions on how their AFFF/Component Products should be used and disposed of, thereby permitting PFAS to contaminate Plaintiff's water systems in CWD;
- c. failed to recall and/or warn the possessors and users of their AFFF/Component Products of the dangers of groundwater contamination as a result of standard use and disposal of their products;
- d. failed and refused to issue the appropriate warning and/or recalls to the possessors and users of their AFFF/Component Products;

- e. failing to take reasonable, adequate, and sufficient steps or actions to eliminate, correct, or remedy any contamination after it occurred; and
- f. otherwise being negligent, careless, or reckless in their respective design, manufacture, formulation, handling, labeling, warning, instructions marketing, promotion, advertising and/or sale of AFFF/Component Products containing PFAS, including but not limited to PFOS, PFOA, and/or their chemical precursors.

254. As manufacturers, Defendants were in the best position to provide a safe and suitable product with adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products, and to take steps to eliminate, correct, or remedy any contamination they caused.

255. Defendants knew that it was substantially certain that their acts and omissions described above would inevitably result in the contamination of the Plaintiff's water systems in CWD.

256. As a direct result of Defendants' acts and omissions and the resulting contamination, Plaintiff has incurred the significant expenses and costs described above.

257. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

COUNT V:
PRIVATE NUISANCE

258. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 257 above, and further alleges the following:

259. Plaintiff is the owner of land, easements, and water rights that permit it to extract surface and groundwater for use in its wells to provide water to its customers in Massachusetts.

260. Defendants' intentional, negligent, and/or reckless conduct, as alleged herein, has resulted in contamination of Plaintiff's water systems in Massachusetts with PFAS, human carcinogens that cause adverse human health effects.

261. Defendants' manufacture, distribution, sale, supply, and marketing of AFFF/Component Products containing PFAS, including but not limited to PFOS, PFOA, and/or their chemical precursors, was unreasonable because Defendants had knowledge of the unique and dangerous chemical properties of PFAS and knew that contamination of groundwater supply wells was substantially certain to occur, but failed to provide adequate warnings of, or take any other precautionary measures to mitigate, those hazards.

262. The contamination caused, contributed to, and/or maintained by Defendants substantially and unreasonably interfered and continues to interfere with Plaintiff's use and enjoyment of its property.

263. Each Defendant has caused, contributed to, and/or maintained such nuisance, and is a substantial contributor to such nuisance.

264. As a direct and proximate result of Defendants' acts and omissions as alleged herein, Plaintiff has suffered, are suffering, and will continue to suffer substantial damages related to PFAS contamination of the Impacted Systems, including but not limited to devaluation, capital costs, legal costs, and sampling costs.

265. Defendants knew it was substantially certain that their acts and omissions described above would cause injury and damage, including PFAS contamination of Plaintiff's groundwater supplies. Defendants committed each of the above-described acts and omissions knowingly, willfully, and with oppression, fraud, and/or malice. Such conduct was performed to promote sales of AFFF, in conscious disregard to the probable dangerous consequences of that conduct and its

reasonably foreseeable impacts on groundwater resources, public health and welfare. Therefore, Plaintiff requests an award of punitive damages in an amount sufficient to punish these Defendants and that fairly reflects the aggravating circumstances alleged herein.

266. Defendants are jointly and severally liable for all such damages, and Plaintiff is entitled to recover all such damages and other relief as set forth below.

COUNT VI:
TRESPASS

267. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 266 above, and further alleges the following:

268. Plaintiff is the owner, operator, and actual possessor of real property and improvements used for collecting drinking water.

269. Defendants designed, manufactured, distributed, marketed, and sold AFFF/Component Products with the actual knowledge and/or substantial certainty that AFFF containing PFOS, PFOA, and/or their chemical precursors would, through normal use, release PFAS that would migrate into groundwater, causing contamination.

270. Defendants negligently, recklessly, and/or intentionally designed, manufactured, distributed, marketed, and sold AFFF/Component Products in a manner that caused PFAS to contaminate Plaintiff's property.

271. As a direct and proximate result of Defendants' trespass, Plaintiff has suffered and continues to suffer property damage requiring investigation, remediation, and monitoring costs.

272. Defendants knew that it was substantially certain that their acts and omissions described above would threaten public health and cause extensive contamination of property, including groundwater collected for drinking. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with

conscious and/or reckless disregard for the health and safety of others, and for Plaintiff's property rights.

COUNT VII:
ACTUAL FRAUDULENT TRANSFER (DuPont and Chemours Co.)

273. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 272 above, and further alleges the following:

274. Through their effectuation of the Spinoff, Chemours Co. and DuPont (the "Fraudulent Transfer Defendants") caused Chemours Co. to transfer valuable assets to DuPont, including but not limited to the \$3.9 billion dividend (the "Transfers"), while simultaneously assuming significant liabilities (the "Assumed Liabilities").

275. The Transfers and Assumed Liabilities were made for the benefit of DuPont.

276. At the time that the Transfers were made and the Liabilities were assumed, and until the Spinoff was complete, DuPont was in a position to, and in fact did, control and dominate Chemours Co.

277. The Fraudulent Transfer Defendants made the Transfers and incurred the Assumed Liabilities with the actual intent to hinder, delay, and defraud the creditors or future creditors of Chemours Co.

278. Plaintiff has been harmed as a result of the conduct of the Fraudulent Transfer Defendants.

279. Plaintiff is entitled to avoid the Transfers and to recover property or value transferred to DuPont.

COUNT VIII:
CONSTRUCTIVE FRAUDULENT TRANSFER (DuPont and Chemours Co.)

280. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 279 above, and further alleges the following:

281. Chemours Co. did not receive reasonably equivalent value from DuPont in exchange for the Transfers and Assumed Liabilities.

282. Each of the Transfers and the assumption of the Assumed Liabilities by Chemours Co. was made to or for the benefit of DuPont.

283. At the time that the Transfers were made and the Assumed Liabilities were assumed, and until the Spinoff was complete, DuPont was in a position to, and in fact did, control and dominate Chemours Co.

284. The Fraudulent Transfer Defendants made the Transfers and assumed the Assumed Liabilities when Chemours Co. was engaged or about to be engaged in a business for which its remaining assets were unreasonably small in relation to its business.

285. Chemours Co. was insolvent or in contemplation of insolvency at the time of the Transfers or became insolvent as a result of the Transfers and its assumption of the Assumed Liabilities.

286. At the time that the Transfers were made and Chemours Co. assumed the Assumed Liabilities, the Fraudulent Transfer Defendants intended to incur, or believed or reasonably should have believed, that Chemours Co. would incur debts beyond its ability to pay as they became due.

287. Plaintiff has been harmed as a result of the Transfers.

288. Plaintiff is entitled to avoid the Transfers and to recover property or value transferred to DuPont.

COUNT IX:
PUNITIVE DAMAGES

289. Plaintiff adopts, realleges, and incorporates each and every allegation in the paragraphs 1 through 288 above, and further alleges the following:

290. Defendants engaged in willful, wanton, malicious, and or/reckless conduct that caused the foregoing damage upon Plaintiff, disregarding their protected rights.

291. Defendants' willful, wanton, malicious, and/or reckless conduct includes but is not limited to Defendants' failure to take all reasonable measures to ensure PFAS would not be released into the environment and inevitably enter Plaintiff's water supply wells, water treatment plants and properties.

292. Defendants have caused great harm to Plaintiff, acting with implied malice and an outrageously conscious disregard for Plaintiff's rights and safety, such that the imposition of punitive damages is warranted.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, CHELMSFORD WATER DISTRICT, demands judgment against Defendants, and each of them, jointly and severally, and request the following relief from the Court:

- a. a declaration that Defendants acted with negligence, gross negligence, and/or willful, wanton, and careless disregard for the health, safety of Plaintiffs;
- b. an award to Plaintiff of general, compensatory, exemplary, consequential, nominal, and punitive damages, including but not limited to damages compensating Plaintiff for:
 - i. ; costs and expenses related to the past, present, and future investigation, sampling, testing, and assessment of the extent of PFAS contamination at the CWD;
 - i. costs and expenses related to past, present, and future treatment and remediation of PFAS contamination at CWD and
 - ii. costs and expenses related to past, present, and future installation and maintenance of filtration systems to assess and evaluate PFAS at the CWD;

- c. an order for an award of attorney fees and costs, as provided by law;
- d. pre-judgment and post-judgment interest as provided by law;
- e. any equitable or injunctive relief the Court deems just and proper;
- f. an order barring the transfer of DuPont's liabilities for the claims brought in this Complaint; and
- g. an order for all such other relief the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff, CHELMSFORD WATER DISTRICT, demands a trial by jury of all issues so triable as a matter of right.

Dated: New York, New York
September 16, 2022

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